

**THE CONTENTS OF THIS DOCUMENT  
ARE THE HIGHEST QUALITY AVAILABLE**

INITIAL RP DATE 1/26/00

Test Area North, Waste Area Group 1  
Public Comment Document F11

Comment(s)

Response to Comments

Comments continue. Attach additional pages if necessary.

COMBOD EXCAVATION AND OFFSITE DISPOSAL  
THE PROCESS WAS DEVELOPED BY GENERAL ELECTRIC  
CORP AND IS LICENSED/IMPLEMENTED BY  
METCALF & EDDY OF WAKEFIELD, MA -  
CALL DOUG SHADOCK 781-224-6247  
OR SCOTT SMITH 404-881-8010  
FOR MORE INFORMATION

F11-1/77  
(continued)

OR CALL LARRY KALLAR @ MONTEC (404) 494-5555  
MONTEC IS CONSIDERING A SOIL PROGRAM USING THE PROCESS

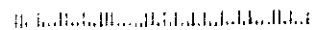
Fold Here. Please Use Only Clear Tape to Seal

A47

**BUSINESS REPLY CARD**

FIRST CLASS MAIL PERMIT NO. 81 IDAHO FALLS, IDAHO  
POSTAGE WILL BE PAID BY ADDRESSEE

JERRY LYLE  
OFFICE OF PROGRAM EXECUTION  
DOE IDAHO OPERATIONS OFFICE  
P O BOX 2047  
IDAHO FALLS, IDAHO 83403-9901



Test Area North, Waste Area Group 1  
Public Comment Document F12

Comment(s)

Response to Comments

http://www.ida.net/users/cab/40a.HTM

http://www.ida.net/users/cab/40

Recommendation by the INEEL CAB on:

## Proposed Plan for Waste Area Group 1 Test Area North at the INEEL

### INEEL CAB Recommendation Number 40

March 18, 1998

#### Recommendation

The following recommendation is submitted to the Department of Energy's Idaho Operations Office (DOE-ID), Region X of the U. S. Environmental Protection Agency, and the State of Idaho as the Idaho National Engineering and Environmental Laboratory (INEEL) Citizens Advisory Board's (CAB) comments on the Proposed Plan for Waste Area Group 1 (WAG 1)/Test Area North (TAN) at the INEEL.

After careful review of the Proposed Plan for WAG 1, the INEEL CAB concluded that the document is too flawed for public review and the apparent errors preclude reasoned review of the document. In addition, we cannot provide comment on the selection of preferred alternatives because we do not have confidence in the conclusions that were drawn based on the analysis the Proposed Plan reports. The only meaningful recommendation we can make at this time is that the entire document needs to be done over again in order for the public to review it and provide comment on the decisions it will support.

#### Rationale

The following is a partial list of errors and problems that precluded reasoned review on our part

- The middle of page 4 notes nine radionuclides, four metals, four organic contaminants, and PCBs. A reference is made to Table 1 for listing. The table list two radionuclides, two metals, two organics, and PCBs. At best, this is confusing.
- The Table on page 15 presents cost estimates for the remedial alternatives for TSF-07. The estimate for operation and maintenance costs per year for Alternative 2b "Engineered Barrier" alternative are one and a half times higher than the operation and maintenance costs for the Alternative 1 "Limited Action" alternative. This does not make good sense.
- The bottom of page 22 notes the use of grouting. When asked, the presenter said the grouting material would be concrete, a substance which is not well known for its stability. We have had discussions of other types of grout (plastic or ceramic) which would appear to be more logical.
- Table 1 on Page 7 lists spilled mercury as having a total cancer risk in humans of 1 in 10,000. There is no known cancer risk in humans from mercury.
- Page 32, TSF-26, Alternative 2a and Alternative 3a are identified by the same name, yet cost estimates are different.
- The Table on page 38 presents comments with double negatives. This use of the language makes

F12-1/8, 10

In response to public comment, the Agencies revised the proposed plan and re-released it. During the review of comments on the proposed plan, the Agencies reassessed their initial determination for some WAG 1 sites that the preferred alternative provided the best balance between criteria. The Agencies factored in newly available information and the points of view expressed by the public. Two treatability studies were carried out for one site, and further investigations of contamination were carried out at two sites. A Feasibility Study Supplement was prepared to consider several additional alternatives for several sites and reevaluate the alternatives. The preferred remedy was changed for five sites. As a result, the revised proposed plan issued in November 1998 not only used an improved format and wording, but also presented an amplified set of cleanup alternatives forming the basis for the best final selection of remedies. The treatability studies and additional contamination evaluations confirmed the selection.

F12-2/10

See response to Comment F12-1, above.

F12-3/68

The operation and maintenance costs for containment include all monitoring and review costs associated with Alternative 1 plus the costs of monitoring against subsidence, water infiltration, contour alterations, and other changes in protectiveness of the cover over time, which are actions not required under Alternative 1.

F12-4/36

The actual grouting material to be used would be specified in the remedial design. Factors considered in selection would include leachability, durability, the ratio of dry mix to liquid, and compressive strength, as well as stability. A treatability study for in situ stabilization (grouting) was conducted in 1998 and is documented in the *Final Report, Treatability Study for LMITCO TSF-09 V-1, V-2, and V-3 Tank Waste*, September 1998 (INEEL/EXT-98-00739). Analytical results for waste drawn from the V-Tanks showed that three grouting mixes, all containing some proportion of Portland cement, met the criteria for a suitable stabilization/solidification option. However, grouting to treat or stabilize waste is not part of any remedy selected in this ROD, as detailed in Part II. Alternatives involving grouting for treatment or stabilization of contaminated media were determined not to meet ARARs for the V-Tanks (TSF-09 and TSF-18) or the PM-2A Tanks (TSF-26).

F12-5/74

The commenters are correct that mercury does not present a cancer risk to humans. The November proposed plan revision clarified this misleading impression in the table presenting risks.

F12-6/10

See response to Comment F12-1, above.

F12-1/  
8, 10

F12-2/10

F12-3/68

F12-4/36

F12-5/74

F12-6/10

F12-7/10

**Test Area North, Waste Area Group 1  
Public Comment Document F12**

**Comment(s)**

**Response to Comments**

<http://www.ada.net/users/cab-40a.HTM>

<http://www.ada.net/users/>

understanding very difficult.

- Radium-226 levels at the Test Area North Disposal Pond are described as being "below background," yet the background levels are not presented. The description is meaningless unless more information is provided.
- The preferred alternative for the V-Tanks (TSF-09/18) is not supported by the decision logic presented in Table 5 (which appears to contradict the text)

To return to the [March 1998 Meeting Recommendations](#) page

To return to the [Meeting Dates](#) page.

F12-7/10  
(continued)

F12-8/62

F12-9/52

F12-7/10

See response to Comment F12-1, above.

F12-8/62

Radium-226 does not require remediation at the TAN Disposal Pond (TSF-07). The February 1998 proposed plan listed radium-226 as one of the COCs at the Disposal Pond. Following the release of the first proposed plan in February 1998, further investigation of the radium-226 concentrations at the Disposal Pond determined that it is present at levels that are below naturally occurring background levels established for the INEEL. The CERCLA process does not require cleanup to below naturally occurring levels. The revised proposed plan issued in November 1999 reflected this expanded knowledge. Detailed information can be found in the Administrative Record in the *TAN TSF-07 Pond Radium-226 Concentrations and Corrections* report (LMITCO Engineering Design File ER-WAG 1-08, INEEL/EXT-98-00505, June 1998).

F12-9/52

A treatability study of planar ISV, a technological improvement over conventional ISV, was carried out in 1998 for the V-Tanks. The report on this study, *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854), is available in the Administrative Record. The results of the study demonstrated that planar ISV could be readily implemented and would have high effectiveness on the contamination present in and surrounding the V-Tanks. The study's results fully support the ranking of ISV as shown in the November 1998 revised proposed plan. A discussion of the study and its results could have been included in the plan. The ISV technology typically is less costly than the multiple technologies required for in situ treatment of mixtures of organic and heavy metal contaminants such as exist in these tank sites.

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

December 18, 1998

Mr. Jerry Lyle  
P. O. Box 2047  
Idaho Falls, ID 83403-9901

Dear Mr. Lyle:

I am submitting comments on the second Proposed Plan for WAG 1 issued for public review. I am not impressed with this second attempt.

General Comments

There is no evidence in this Plan of the first version floated early this year, and the modifications made as a result of those comments. Why? Are the agencies embarrassed that they had to try this twice, and still haven't gotten it right? They should be. While some aspects of the Plan have been improved, many of my earlier comments are repeated here - because they need to be. I have noted them as "repeat comments".

In the last Plan, the LOFT Pond was listed as a site where excess risk existed and remediation was planned, yet this Plan calls it a site: "with contamination not sufficient to cause unacceptable risk". Please explain this apparent change in status. Will the agencies take any action at this site?

In the last Plan, TAN 616 was included. It is missing from this Plan. Please explain to the public why it has been removed.

TAN 666 was discussed in the last Plan. It has been removed (correctly, I believe) from this Plan. Please explain to the public why it has been removed and what action, if any, the DOE intends to take at this site.

The RPSSA was included in the last Plan. It has been removed from this Plan and listed as a site: "with no exposure pathway...". I concur this site should not be addressed by CERCLA, but do not concur that there is no exposure pathway. Radionuclides are located at, or near, the surface and are susceptible to wind-blown transport leading to inhalation and direct exposure. A pathway certainly exists. Are the agencies intentionally mis-representing the site, or have they made another stupid blunder? It's sometimes difficult to tell the difference. Please tell the public why this site was removed from the Plan and what the DOE intends to do at this site.

Additional Comments

Page 4, information note in the sidebar. The note states that INEEL has disposed of IDW throughout the assessment process. This is a clear prevarication. Many of the 25,000 "legacy samples" recently dispositioned by the INEEL originated

N1-1/11

N1-2/22

N1-3/  
21, 22

N1-4/22

N1-5/22

N1-6/5

N1-1/11

An effort was made to respond to specific areas that concerned readers, which included organizing a focus group with members of the public to ask exactly what items were hard to read or understand, and hear ideas on improvement. Many changes resulted from readers' requests.

The commenter asks why the revised proposed plan did not specifically describe and discuss the changes made from the first proposed plan. The changes in technical content are described in detail in the Feasibility Study Supplement, which documents them fully. The revised proposed plan is a summary only, containing information required for the public to review the final set of alternatives and preferences under consideration. In preparation of the revised proposed plan, it was clear that as a stand-alone document, it should not contain numerous references back to a plan that it supersedes. The need to review two versions of the same plan should not only be unnecessary, but could confuse readers who had not read or did not have the previously issued plan. The decision was made, therefore, to issue a revised proposed plan that is based directly on the comprehensive investigation documents, as required. This ROD provides a record of the revision reasons and process.

N1-2/22

The LOFT-02 Disposal Pond was constructed in 1971 for LOFT experiment wastewater and is now used only for sanitary wastewater and boiler blowdown from the Specific Manufacturing Capability (SMC) operations. The comprehensive RI/FS documented that contamination from metals in soil at the LOFT-02 pond is below levels that pose risk to human health. Threats to ecological receptors from this site will be addressed under the WAG 10 site-wide comprehensive RI/FS. More information on this site is available in the Administrative Record for WAG 1.

The proposed plan is a summary of those sites at TAN where remedial action is required to protect human health and the environment from risks posed by past releases of contamination. The proposed plan is based on the comprehensive RI/FS for WAG 1, which was the culmination of nearly 50 investigations of potential release sites at TAN. These investigations, which began after the 1991 signing of the FFA/CO for INEEL, determined that 94 potential release sites at TAN required study. A 1995 Record of Decision initiated action at 2 sites and determined that no action or no further action was needed at 30 sites. The comprehensive RI/FS evaluated the remaining 62 potential release sites and determined that no action or no further action was needed at 53 sites, and threats to human health required remedial action at 9 sites. One of these 9 sites, the Mercury Spill Area (TSF-08) was selected for a treatability study and will be remediated (if necessary) under WAG 10. Two sites do not pose a threat to human health but do pose a risk to the environment: the LOFT-02 Disposal Pond and the WRRTF-03 Evaporation Pond. These sites also will be addressed under WAG 10. The information and evaluations leading to these decisions is contained in the Administrative Record for INEEL and for WAG 1. The primary decision documents are the OU 1-07 ROD, the comprehensive RI/FS, the Feasibility Study Supplement, and the Track 1 and Track 2 reports. The Agencies believed that the proposed plan issued in February 1998 and the revised proposed plan issued in November 1998 summarized this information adequately.

**Test Area North, Waste Area Group 1  
Public Comment Document N1**

**Comment(s)**

**Response to Comments**

N1-3/21, 22

TAN-616 is a liquid waste treatment plant. It is inactive and will receive further evaluation under CERCLA within 5 years because of potential for release of contaminants from sludge in tanks and pipes.

As part of the comprehensive WAG 1 risk assessment, all TAN buildings and structures that are still active or inactive but in standby mode were also evaluated to determine whether future releases from them could occur that would affect the cumulative and comprehensive assessment of risk. The analysis evaluated the possibility for these scenarios through process knowledge of past activities at these and similar facilities. As documented in Appendix D of the comprehensive RI/FS, only 4 of the 89 buildings or structures were found to have potential to contribute to future risk at TAN: the TAN Hot Shop (TAN-607), the asphalt pads outside the Radioactive Parts Service and Storage Area (RPSSA) buildings (TAN-647 and -648), and the two Radioactive Liquid Waste Treatment and Transfer/Storage buildings (TAN-616 and -666). None of these pose an imminent threat of release; their retention is based primarily on remote accident scenarios or documented past releases at these or similar sites. As part of active operations at TAN, these sites are covered under appropriate management control procedures. Appendix D describes the programs in place to prevent risks to human health or the environment.

See also response to Comment N1-2, above.

N1-4/22

TAN-666 is a radioactive liquid waste transfer and storage building. It is not in use. It is authorized for operation under INEEL Emergency Plan/RCRA Contingency Plan.

See also responses to Comments N1-2 and N1-3, above.

N1-5/22

TSF-43 (RPSSA Buildings TAN-647 and TAN-648 and outside pads). This is part of an active facility and will be further assessed during removal. The contamination that is present under the outside pads is fixed in place with an asphalt cover. The contamination that lies beyond the asphalted area was evaluated as TSF-06, Soil Contamination Area South of the Turntable, and the portion of this site that was determined to require remediation will be cleaned up in accordance with the decisions implemented in this ROD. More information on this site is available in the Administrative Record for WAG 1.

See also responses to Comments N1-2 and N1-3, above.

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

from years of CERCLA investigation. They had been stored, many of them improperly, for many years before disposition. That disposition was forced by a finding during a DEQ RCRA enforcement inspection. Please be honest with the public.

Page 5. "Any remaining potential release sites are located near active facilities and will be further assessed when those facilities are closed. Current policies in place at the active facilities protect workers and the environment." Please explain how "potential releases" are known to exist; how we know they are near active facilities (and not 'far from' active facilities). Finally, please be specific concerning what existing "policies" protect the environment against "potential releases".

This issue appears to be similar to that which garnered my previous comment: - "Past releases that have not been discovered...have the potential for producing unacceptable risk and were evaluated...in the RI/FS." How can releases which have not been discovered be evaluated? Bounding calculations might be possible, but undiscovered releases, as discrete units, cannot be evaluated. Suggest changing the wording.

It appears the wording has been changed, but the agencies are still unclear as to what they mean and intend to do

Page 7, next-to-last paragraph. WAG 1 appears to be deferring ecological risk to WAG 10. This is inconsistent with what is being proposed in the WAG 3 Plan. How do the agencies intend to address this issue across the INEEL? Please be consistent across the site and the Program!!

Page 9. RAO for the V-tanks and PM2-A tanks. Repeat Comment: The RAOs for the V-tanks mention nothing about destruction of PCBs or meeting LDRs. Waste was added to these tanks after 1980 making them a RCRA unit where waste was actively managed and subject to LDRs

Page 9. RAO for the WRRTF diesel leak. Repeat Comment. The RAO does not address protection of the Snake River Plain Aquifer. A significant source term of diesel was left in the soil and fractured basalt: diesel has migrated through fractured basalt of the vadose zone to the aquifer. Remaining diesel contamination could continue to leach to the aquifer.

Additionally, although the RAO mentions the Idaho RBCA standards, it still relies on the older, superseded TPH standard. Which one will be used? TPH is a state standard for land farming contaminated soil, not a clean up standard. Why can't the agencies seem to understand these simple requirements?

Page 26 Repeat Comment - Sites Remediated in Previous Actions - Under which CERCLA ROD were these remediations conducted? Were these actions done as part of formal CERCLA remediations? Removals? Or non-CERCLA activities? If conducted outside of CERCLA, please explain the rationale and authority used by DOE

N1-6/5  
(continued)

N1-7/13

N1-8/28

N1-9/32

N1-10/  
31, 82

N1-11/30

N1-12/22

N1-6/5

Legacy waste is the formal term used by the DOE's Environmental Management Program for the backlog of stored waste remaining from the development and production of U.S. nuclear weapons, about which a permanent disposal determination remains to be made. No legacy waste has been or will be generated by the CERCLA process at TAN, nor does the WAG 1 investigation include the program for their disposal.

Investigation-derived waste is contaminated soil, debris, liquid, sampling equipment, and personal protective equipment generated during site characterization and removal activities. It includes samples returned from analytical laboratories. Actions taken prior to or during cleanup will include appropriate disposal of WAG 1 investigation-derived waste in accordance with federal and state regulations and the CERCLA process.

N1-7/13

The possibility exists that contaminated environmental media not identified by the INEEL FFA/CO or in this comprehensive investigation will be discovered in the future as a result of routine operations, maintenance activities, and decontamination and dismantlement (D&D) activities at TAN. These will be addressed using the process for new site inclusion defined in the FFA/CO and will be remediated pursuant to the RAOs and final remediation goals (FRGs) identified in this ROD. The comprehensive RI/FS process at WAG 1 investigated all known actual or potential release sites. Active operations and cleanup activities at TAN are covered under various company manuals and environmental restoration management control procedures.

N1-8/28

Ecological risks present impacts to entire populations of plants and animals, and thus require evaluation across the entire population of each species present at the INEEL. The assessment of risk to a site-wide species cannot logically be carried out at any single release site within a waste area group. Sites within a waste area group that have only an ecological risk, therefore, may be evaluated under WAG 10, the final INEEL waste area group comprehensive investigation, and will be remediated as appropriate. Those sites will be assumed to have been cleaned up to meet remedial actions objectives for human health.

The ecological risk assessment process for the INEEL has three phases. Two phases are carried out at the level of the individual WAG; the third phase integrates all the WAG information in a site-wide study. The first phase for the WAG 1 comprehensive RI/FS was a screening-level ecological risk assessment (SLERA), which identified data needs for WAG 1 sites and screened out sites at which no contaminants of potential concern are found. The second phase was a site-by-site evaluation of the risks from contaminants to ecological resources (plants and animals) on the WAG-wide level. The second phase uses an approach parallel to the human health risk assessment. The third phase, which will take place under WAG 10, will be the INEEL-wide ecological risk assessment. It will integrate WAG-level results from WAGs 1 through 9 to evaluate risk to INEEL-wide ecological resources. Effects resulting from past contamination and residual impacts from completed interim or remedial actions will be assessed for their

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

N1-8/28 (continued)

potential to adversely affect populations and communities on an ecosystem-wide basis (that is, over the entire INEEL). Remediation will take place as required following completion of that study.

N1-9/32

The remedial action objective (RAO) specified is consistent with the RAO used for tank sites throughout all WAGs at the INEEL. Also, destruction of PCBs will be met through specified ARARs, as listed in Part II of this ROD.

N1-10/31, 82

The comprehensive RI/FS determined that contamination at the Fuel Leak site does not threaten the aquifer. The 1995 OU 1-07B ROD for the Technical Support Facility Injection Well determined on the basis of groundwater quality analyses that this well is the source of groundwater contaminants at TAN. The well was last used as a disposal site in 1972. Remediation of the contaminated groundwater plume below TAN is proceeding in accordance with the 1995 ROD. More information on this site is available in the Administrative Record for WAG 1.

N1-11/30

The remedial action objective was identified in the revised (November 1998) proposed plan for the Fuel Leak site as: "Prevent direct exposure to total petroleum hydrocarbon constituents at concentrations over 1,000 mg/kg, in accordance with the State of Idaho Risk-Based Corrective Action guidance." The RAO was changed in this ROD to: "Prevent exposure to petroleum hydrocarbon constituents in accordance with the State of Idaho Risk-Based Corrective Action guidance." The 1,000 mg/kg reference to total petroleum hydrocarbons was removed to conform to the State of Idaho Risk-Based Corrective Action guidance enacted on January 1, 1997. This change is described in Part II, Section 11, of this ROD.



Test Area North, Waste Area Group 1 Public Comment Document N1	Comment(s)	Response to Comments
to conduct non-emergency cleanups of CERCLA sites without public review.	N1-12/22 (continued)	<p>N1-12/22</p> <p>The information and evaluations leading to these decisions is contained in the Administrative Record for WAG 1 and the INEEL. The primary decision documents are the OU 1-07 ROD, the comprehensive RI/FS, the Feasibility Study Supplement, and the Track 1 and Track 2 reports. The Agencies believed that the proposed plan issued in February 1998 and the revised proposed plan issued in November 1998 summarized this information adequately.</p> <p>See also response to Comment N1-2, above.</p>
<u>Site-Specific Comments</u>		
V-tanks		
1. ISV has a history of leaving unvitrified inclusions in melts. Further, these inclusions remain unknown unless the solidified melt is dismantled. Please identify how the agencies will ensure and verify that this process will effectively treat all of the waste in the V-tanks. Untreated waste will nullify and violate the risk-assessment assumptions made for this site and will severely impact "long term effectiveness". I strongly suggest Alternative 2 be adopted.	N1-13/53	N1-13/53
2. ISV has not been done on a waste which is mostly water and also has a high void coefficient (half-full tanks). It is unclear why the agencies believe that steam evolution/explosions will not hamper this proposed treatment. I strongly suggest Alternative 2 be adopted.	N1-14/52	<p>The ISV technology that was tested is a modification called planar ISV. It is described in the <i>Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks</i>, October 1998 (INEEL/EXT-98-00854). Planar ISV is an enhancement of conventional ISV technology that resolves problems that have occurred using conventional ISV. By treating the contamination matrix from the ground surface down, conventional ISV can trap volatile materials below the melt resulting in pressure buildup that can cause displacement of material from the melt pool, overheating of the off-gas treatment system, and process upsets. Planar ISV resolves these issues by positioning the melt planes to the sides of the contamination area, allowing the melt to proceed from the sides inward toward the center so the vapors can vent upward and be effectively and safely removed. Reliability problems and process upsets are not anticipated for planar ISV.</p> <p>Planar ISV could simultaneously treat, in situ, the radioactive and chemically hazardous materials in the V-Tanks (including the PCBs) and the contaminated soil surrounding the tanks. A full-scale demonstration to meet Toxic Substances Control Act (TSCA) requirements was performed at the Apparatus Service Center Superfund Site in Spokane, Washington, to treat PCBs. All objectives were met and an EPA TSCA permit was issued in October 1995. A large-scale remediation was successfully performed on dioxin and other organic wastes from the Wasatch Chemical Superfund Site in Salt Lake City, Utah. At both sites, treatment efficiency of over 99.99% was demonstrated. The planar ISV system has been accepted for use on four Superfund projects to date. These previous demonstrations and the treatability study show that planar ISV could be expected to successfully treat the V-Tank contents and surrounding contaminated soil to achieve final remediation goals.</p> <p>For the V-Tanks treatability study, two tests were performed. The first test, using soil from the TAN site, demonstrated that planar ISV can develop a melt of sufficient scale and configuration to process the 10,000-gal V-Tanks. The second test was performed on a 4,500-gal scaled-down version of a V-Tank containing simulated sludge and liquids, including a non-radioactive cesium compound. The volatile materials present in the actual V-Tanks were also simulated. The remaining void space in the tank was filled with soil. A post-test evaluation showed that the melts developed symmetrically with no pressure build-up generated within the tank. The tank was successfully treated with no process upsets. Evaluation of the pre- and post-test chemical sampling data indicated that, despite its relatively remote placement in the bottom of the tank, the cesium was essentially uniformly dispersed and 99.97% of the cesium was retained in the vitrified block. Volatile compounds in</p>
3. ISV has a history of significant releases of organic contaminants to the atmosphere. How will the agencies address this known problem? These tanks also contain high concentrations of mercury. How will atmospheric releases of mercury be controlled? How will all of the steam in the off-gas affect the organic and mercury retention units in the off-gas system? I believe these issues strongly detract from the "short term effectiveness" of this alternative. I strongly suggest Alternative 2 be adopted.	N1-15/53	N1-16/53
4. Repeat Comment: The description of tank contents ("radionuclides, metals, and organics") does not inform the public of the actual contents (listed waste, high mercury, PCBs, alpha contamination) and thus the public cannot evaluate whether the proposed actions are realistic and protective of human health and the environment. Please provide complete and honest description of tank contents.	N1-17/47	
5. One of my past comments was - "Further evaluation of the uranium-235 will be performed prior to any remediation." Why was U-235 not evaluated during the RI/FS, as required by the NCP? This is another example of how the agencies have proceeded to make cleanup decisions based on inadequate data. This Proposed Plan should be withdrawn and resubmitted to public comment when characterization is complete, the potential risk is fully known, and realistic, compliant alternatives identified and evaluated.	N1-18/47	
The concern about U-235 is not repeated in this Plan. What happened? Did the concern go away? Have agencies simply decided not to share it with the public? Please explain - and be honest.		
6. Repeat Comment: Waste was added to these tanks after 1980 making them a RCRA unit where waste was actively managed and subject to LDRs.	N1-19/54	

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

N1-13/53 (continued)

the soil were also remediated. The minor quantities of debris (rocks, wire, plastic, and wood) that were processed during the test had no observable effect on the ISV process. Although organics were not present in the treatability test, it has been successfully demonstrated previously that ISV results in the effective destruction of organic contaminants while ensuring full compliance with air emission requirements. The vitrified block was excavated, fractured, and sampled to verify effectiveness. The concentration of cesium, lithium, and molybdenum tracer materials were shown to be essentially uniform throughout the monolith.

However, the treatability study also identified additional costs that were not included in the cost estimate prepared for the comprehensive RI/FS or presented in the proposed plan. As a result, the Alternative 4 – In Situ Vitrification cost for the V-Tanks sites increased by 50%, lowering its relative ranking due to this decrease in cost-effectiveness.

At the same time, two commercial facilities became available for ex situ treatment of the tank contents, increasing the implementability of Alternative 2 – Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal. The facilities are permitted to dispose of mixed wastes similar to those in the V-Tanks. The V-Tanks alternatives were reevaluated to factor in this new information on the ISV cost and the off-site treatment availability. Because the new variation of Alternative 2 would have equally high long-term effectiveness and implementability and greater cost-effectiveness compared to Alternative 4, Alternative 2 was selected as the remedy for the V-Tanks. Additional details on the reevaluation of alternatives for the V-Tanks are in Part II, Section 7.1, of this ROD.

N1-14/52

A treatability study of planar ISV, a technological improvement over conventional ISV, was carried out in 1998 for the V-Tanks. The report on this study, *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854), is available in the Administrative Record. The results of the study demonstrated that planar ISV could be readily implemented and would have high effectiveness on the contamination present in and surrounding the V-Tanks. The study's results fully support the ranking of ISV as shown in the November 1998 revised proposed plan. A discussion of the study and its results could have been included in the plan. The ISV technology typically is less costly than the multiple technologies required for in situ treatment of mixtures of organic and heavy metal contaminants such as exist in these tank sites.

See also response to Comment N1-13, above.

N1-15/53

See responses to Comments N1-13 and N1-14, above.

N1-16/53

See responses to Comments N1-13 and N1-14, above.

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

N1-17/47

The V-Tank sites require remedial action to address contaminated soils surrounding the tanks. The tanks themselves are partially filled with liquids and sludges metals, radionuclides, and organic materials. The contamination in the surrounding soils originated during transfer of wastes to and from the tanks. The contamination in the tanks is known from process knowledge and sampling to include metals (barium, cadmium, chromium, lead, mercury, and silver), volatile organic compounds (trichloroethene, 1,1,1-trichloroethane, carbon tetrachloride, and acetone), semi-volatile organic compounds (PCBs and Stoddard solvent), and radionuclides (cesium-137, cobalt-60, strontium-90, and various isotopes of plutonium and uranium).

Since the tanks have not leaked, they are not a past release and, therefore, were not eligible for calculation of risk in the OU 1-10 baseline risk assessment.

The tank contents were included in the feasibility study by agreement among the Agencies. Sufficient information on the tank contents was available to establish the potential risk and to evaluate remedial action alternatives for the contents.

Remediation of the site would be much more difficult if it is deferred until after a release has occurred. It is more cost-effective to treat the tank contents before they have leaked and at the same time as the surrounding soils, which must be remediated at this time. Timeliness and greater efficiency will be achieved by treating the tank contents now, in situ, rather than deferring action until after a release has occurred.

N1-18/47

The uranium-235 in the tank contents was further evaluated after the publication of the February 1998 proposed plan. It was determined that the quantities of uranium-235 that are present are not sufficient to pose a risk of criticality and do not require specific remediation. Results of this evaluation could have been described in the revised proposed plan. The study is available in the Administrative Record in *OPE-ER-98, Katie Hain to Wayne Pierre, EPA, and Dean Nygard, IDHW*. Further evaluations will be performed during the remedial design phase to verify that the selected remedy will not result in a criticality concern.

See also response to Comment N1-17, above.

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

Please explain how the agencies will guarantee that LDRs will be met for the hazardous waste and PCBs will be destroyed - knowing that ISV leaves untreated inclusions in the solidified melt.

N1-19/54  
(continued)

N1-19/54

The Agencies would enforce all applicable ARARs, including LDRs, as identified in Part II of this ROD. Verification techniques would be described in the remedial design. The selected remedy for the V-Tanks was changed to Alternative 2 – Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal during a reevaluation of alternatives for this site, triggered by an increase in the estimated cost for the ISV alternative, and the new availability of off-site commercial treatment facilities permitted to handle mixed wastes similar to those in the V-Tanks.

7. Repeat Comment. 40 CFR 761.60(e) requires a demonstration of treatment equivalent to incineration. This equivalency, through chemical destruction of PCBs, has not been demonstrated for this type of ISV. Please explain how, and when, it will take place.

N1-20/54

N1-20/54

See responses to Comments N1-13 and N1-19, above.

8. Repeat Comment. The ARARs for PCB destruction have not been demonstrated. PCBs left in place, in untreated melt inclusions, will create a PCB chemical waste landfill. The site does not, and will not, meet these ARARs. The agencies are again prevaricating and misleading the public.

N1-21/54

N1-21/54

See responses to Comment N1-19, above.

9. A past comment was - The referenced treatability studies should be completed prior to publication of the Proposed Plan so that the agencies and public understand the limitations inherent in the selected alternative. "As the tank contents are contaminated with uranium-235...further evaluation will be performed prior to any remediation." Why has this evaluation not taken place for inclusion in the RI/FS and this Plan? What type of evaluation? How will this evaluation affect the proposed alternatives? This Proposed Plan should be withdrawn and resubmitted to public comment when treatability studies and other evaluations are complete; the potential risk is fully known; and realistic, compliant alternatives identified and evaluated.

N1-22/51

N1-22/51

The CERCLA process provides for general analysis of alternatives as part of the RI/FS process. Data collection efforts and treatability studies are required to the extent necessary to select a remedy. Studies to develop specific details of design are not intended to be carried out until the remedy is actually selected in the ROD, to avoid delays in the RI/FS process, and for best allocation of resources.

What happened to this treatability study? Is U-235 still a problem? Please explain why the proposal has changed from the first version of the Plan.

10. Repeat Comment - In-situ vitrification has not been demonstrated as an equivalent technology for treatment of high mercury (>250 ppm) waste. The RCRA Land Disposal Restriction for this waste is incineration or retorting. If incinerated, the residues must then be checked for total mercury content. If ISV cannot be demonstrated as an equivalent treatment, then an LDR waiver will be required. Why are these issues not discussed in this Plan. The Proposed Plan should be withdrawn and resubmitted to public comment when the ISV treatability study is complete and the option can be fully evaluated.

N1-23/54

Two treatability studies were performed to evaluate the feasibility and effectiveness of alternatives for the V-Tanks that involved in situ vitrification or in situ stabilization (grouting) and treatment of tank contents. The treatability study for in situ stabilization (grouting) is described in *Final Report, Treatability Study for LMITCO TSF-09 V-1, V-2, and V-3 Tank Waste*, September 1998 (INEEL/EXT-98-00739). Analytical results on waste drawn from the V-Tanks showed that three grouting mixes met the criteria for a suitable stabilization/solidification option. Pretreatment of trichloroethene, tetrachloroethene, and PCBs was also tested. The study demonstrated that two of the grouting mixes could successfully be used following pretreatment to destroy the organic contaminants.

The treatability study for in situ vitrification (ISV) is described in *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854). The technology that was tested is a modification called planar ISV, which melts from the sides of the tank inward toward the center (instead of top downward as in the original ISV technology). The treatability study showed that planar ISV could safely and effectively remediate the V-Tanks sites.

11. There is no mention of "delisting", under RCRA, of the solidified melt. (It is mentioned for Alternative 2). If the melt is not delisted in the ROD, based on risk-based concentrations, then the remaining melt must be treated as a hazardous waste landfill. Do the agencies plan to meet ARARs for a hazardous waste landfill? Or issue a waiver? Please state your intent. If the agencies do wish to pursue delisting, how will the melt be characterized to ensure there are no

N1-24/  
54, 48

The uranium-235 in the tank contents was further evaluated after the publication of the February 1998 proposed plan. It was determined that the quantities of uranium-235 that are present are not sufficient to pose a risk of criticality and do not require specific remediation. Results of this evaluation could have been described in the revised proposed plan. The study is available in the Administrative Record in *OPE-ER-98, Katie Hain to Wayne Pierre, EPA, and Dean Nygard, IDHW*. Further evaluations will be performed during the remedial design phase to verify that the selected remedy will not result in a criticality concern.

N1-23/54

See response to Comment N1-19, above.

Test Area North, Waste Area Group 1 Public Comment Document N1	Comment(s)	Response to Comments
untreated inclusions? How will it be sampled to demonstrate that it is a uniform waste and that it meets the delisting criteria? Tell the public the limitations of the preferred alternative. It is not a panacea	N1-24/ 54, 48 (continued)	N1-24/54, 48  The Agencies are not in favor of requesting an ARAR waiver for this site. ARAR waivers are difficult to obtain and are not considered best management practice for this type of site. Remediation of the soils will be consistent. It is anticipated that the selected remedy for the V-Tanks sites will, (a) for the soils, reduce risk from external radiation exposure from cesium-137 to the levels specified in the comprehensive RI/FS and the proposed plan and (b) for the tank contents, result in complete destruction and/or removal of organic contaminants within the sludges and permanent immobilization of metals and radionuclides. The final remediation goal for the tank contents will be specified during the remedial design.
PM2-A Tanks		
1 Repeat Comment. The site description fails to mention extensive soil removal from the PM-2A tank area in the mid-80s. It also fails to mention the significant lack of analytical data on the contents of both tanks. How can remediation decisions be made without adequate data? This Proposed Plan should be withdrawn and resubmitted to public comment when characterization is complete; the potential risk is fully known; and realistic, compliant alternatives identified and evaluated	N1-25/55	The Agencies would enforce all applicable ARARs, including LDRs, as identified in Part II of this ROD. Verification techniques would be described in the remedial design. The selected remedy for the V-Tanks was changed to Alternative 2 – Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal during a reevaluation of alternatives for this site, triggered by an increase in the estimated cost for the ISV alternative, and the new availability of off-site commercial treatment facilities permitted to handle mixed wastes similar to those in the V-Tanks.
2 The site description fails to mention that the tank contents and soil are contaminated with RCRA listed waste. Please identify to which 'on-site' facility this waste will be sent for disposal. If this Alternative is depending on the WAG 3 ICDF, a facility which has not yet been approved, yet alone designed, built, or approved for operation, then the agencies are being presumptuous. Dependence on the ICDF for disposal should be a strong negative factor under 'Implementability' because the facility is not yet available, and may never be available. Identify where this waste will be sent for disposal.	N1-26/37	N1-25/55  The PM-2A Tank system was shut down in 1975 after 20 years of use because of operational difficulties and spillage. Subsequent removal actions have been summarized in the 1995 OU 10-06 Removal Action documentation. It is unclear which removal action the comment refers to. Removals actions include (1) removal of most of the liquids in the late 1970s; (2) dismantlement and deactivation of the aboveground and underground hardware and piping in 1981 and 1982; (3) removal of remaining liquids from the tanks and partial filling with diatomaceous earth to dry the sludges in 1981; (4) removal of 6 in. of top soil from a 75-by 150-foot area northeast of the tanks in the mid- to late-1980s; and (5) a non-time critical removal action in 1995.
3. Do the agencies plan on "delisting" this waste (soil and tank contents) under RCRA? If so, what risk-based standards will be used?	N1-27/58	The PM-2A Tanks sites require remedial action to address contaminated soils surrounding the tanks. The contamination in the surrounding soils originated during transfer of wastes to and from the tanks and during removal of liquids after operations ended. The tanks themselves contain only a few inches of contaminated sludge. When the tanks were emptied, only an inch of liquid remained in the bottom of each, to which diatomaceous earth was added as an absorbent. The contamination in the sludge is known from process knowledge and sampling to include metals (barium, cadmium, chromium, lead, mercury, and silver), organic materials (including PCBs), and radionuclides (cesium-137, cobalt-60, strontium-90, and various isotopes of plutonium and uranium).
4. Page 15, Preferred Alternative. The agencies seem to think that "stabilization" is not "treatment" since this Plan states that stabilization would not reduce toxicity, mobility, or volume; but that treatment would accomplish these goals. What is the difference between "stabilization" and "treatment"? Am I now to realize that waste stabilized in the past at INEEL, was not really treated? In future Plans and future Alternatives, is the public to believe that stabilization is not treatment? Please explain and be consistent.	N1-28/58	Since the tanks have not leaked, they are not a past release and, therefore, were not eligible for calculation of risk in the OU 1-10 baseline risk assessment. The tank contents were included in the feasibility study by agreement among the Agencies. Sufficient information on the tank contents was available to establish the potential risk and to evaluate remedial action alternatives for the contents. Remediation of the site would be much more difficult if it is deferred until after a release has occurred. It is more cost-effective to treat the tank contents before they have leaked and at the same time as the surrounding soils, which must be remediated at
Soil Contamination S. of Turntable		
1. Important ARARs for this preferred Alternative include Idaho Air Toxic Air Pollutants (radionuclides) and federal NESHAPs for radionuclide emissions. The sidebar discussing ARARs is deficient.	N1-29/61	
2. Please identify to which 'on-site' facility this waste will be sent for disposal. If this Alternative is depending on the WAG 3 ICDF, a facility which has not yet been approved, yet alone designed, built, or approved for operation, then the	N1-30/37	

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

N1-25/55 (continued)

this time. Timeliness and greater efficiency will be achieved by treating the tank contents now, rather than deferring action until after a release has occurred.

N1-26/37

The actual on-site disposal location for TAN materials, which could be the Radioactive Waste Management Complex (RWMC), the proposed ICDF, or another facility, will be determined during remedial design following implementation of this ROD. The proposed ICDF would be a landfill for low level radionuclide-contaminated soil and debris. Selection of the ICDF for disposal of TAN materials depends at least in part on the timeframe associated with construction of the facility and its waste acceptance criteria. Costs for this facility, however, would likely be much lower than current RWMC disposal fees.

The development of the ICDF is being planned under Waste Area Group 3 at the Idaho Nuclear Technology and Engineering Center (INTEC; formerly the Idaho Chemical Processing Plant). A description of the proposed ICDF, including its siting, design, capacity, lifespan, and waste acceptance criteria, was presented in October 1998, in the *Proposed Plan for Waste Area Group 3 at the Idaho Chemical Processing Plant*. The Record of Decision for Waste Area Group 3 is expected to be finalized in September 1999.

N1-27/58

All applicable ARARs, as identified in Part II of this ROD, will be enforced by the Agencies. Verification techniques will be described in the remedial design. Satisfaction of LDRs, as required, will be enforced by the Agencies.

N1-28/58

Treatment is any component of an alternative that reduces the toxicity, mobility, or volume of the hazardous substances, pollutants, or contaminants through destruction or alteration. Stabilization, by decreasing the mobility of hazardous substances, is a form of treatment. Proposed plan wording may have incorrectly implied that stabilization is not a form of treatment. Decontamination and other treatment as required to meet ARARs will be developed during the remedial design. Grouting, as a method of treatment or stabilization, will not be a part of the selected remedy.

N1-29/61

All applicable ARARs, as identified in Part II of this ROD, will be enforced by the Agencies.

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

agencies are being presumptuous. Dependence on the ICDF for disposal should be a strong negative factor under "Implementability" because the facility is not yet available, and may never be available. Identify where this waste will be sent for disposal

Disposal Pond

1. This pond has received purge water from surrounding wells. The purge water has been determined to contain a RCRA listed waste. Sediments in the pond may also be contaminated with RCRA listed waste. How do the agencies plan to address this issue?
2. Repeat Comment. The site description and history fails to mention the illegal removal action, called a "best management practice" conducted in the early 1990s. The action removed and grouted sediments from the pond inlet. This pond was sampled several years ago. Was the risk estimate based on the contaminants found at the time of sampling? How did the risk assessment account for the continued discharge since sampling was conducted? Are metal concentrations in pond sediments STILL below risk levels?
3. Page 18, Alternative 1. "Alternative 1 would...comply with regulations." Which regulations? Either enumerate them for this alternative, and all others, or simply state the alternative complies with ARARs. Frankly, I would prefer you enumerate them so the public might have a better idea what the agencies really plan to comply with and what they plan to carefully ignore.

Burn Pits

1. Please identify the expected concentrations, and related risk values, for the beryllium, chlorinated solvents and products of incomplete combustion in these pits.
2. Repeat Comment. WRRTF-01 - This site contains lead at depths within the "future residential, with intrusion" zone of 0-3 m below ground surface (bgs). The lead will not decay in the next 100 years. It will still be available through various exposure pathways, yet the proposed action is to leave it in place. 40 CFR 300.430 is very clear about allowable risk and the NCP is clear that contaminants should be treated or removed rather than left in place. Why will lead be left in place at this site? It seems ludicrous that a small site will be fenced forever in an area that has a real potential for future use by the public. Lead contamination at this site should be removed or treated to reduce future risk.
3. Repeat Comment. WRRTF-01 - The RI/FS for this site indicates that the possible presence of PCBs, dioxins, and furans was not investigated. This seems a gross oversight since it is known that waste oils were burned during a

N1-30/37

See response to Comment N1-26, above.

N1-31/63

The Agencies are not aware of any previous removal actions at this site. Surface water, sediments, subsurface soil, and perched water associated with the pond were sampled from 1982 to 1991. These sample data, together with process knowledge regarding the wastewater disposed of in the pond, were considered adequate to characterize contaminants at this site. Concentrations of radionuclides, metals, and organic materials within the soils of the inactive area of the pond were assessed; cesium-137 was determined to be the only contaminant posing a risk to human health and the environment that requires remediation. Current discharges into a separate 2.5-acre area within the disposal pond (the "active" portion of the pond) consist only of sanitary and industrial waste and are made under a State of Idaho permit for Land Application of Wastewater. Because the disposal pond received waste listed under RCRA, additional samples will be collected as part of implementation of this ROD to provide data to support a no-longer-contained-in determination for this site. The comprehensive RI/FS concluded that metals, organic materials, and radionuclides other than cesium-137 were not at levels sufficient to pose risks to human health or the environment.

N1-32/63

See response to Comment N1-31, above.

N1-33/66

All applicable ARARs, as identified in Part II of this ROD, will be enforced by the Agencies.

N1-34/69

Activities at these sites very likely included the burning of used petroleum products and solvents. Therefore, a potential for PCB contamination exists. In addition, open burning of petroleum products and chlorinated chemicals could result in the production of dioxins/furans. Recent investigation into available records also indicates that other toxic substances, such as beryllium, chlorinated solvents, and used oils were disposed of in the pits. Further contaminants may include pesticides and additional metals. Previous sampling did not identify these possible contaminants.

N1-35/71

The Agencies believe that the selection of Alternative 2 - Containment with Native Soil Cover is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability. The remedial design will require sampling and analysis to design the soil cover to ensure that it will be completely protective of human health and the environment. If it were determined that a fully protective cover could not be cost-effective, then one of the Alternative 3 variations (Excavation and On-Site or Off-Site Disposal) would be selected.

N1-30/37  
(continued)

N1-31/63

N1-32/63

N1-33/66

N1-34/69

N1-35/71

N1-36/69

Test Area North, Waste Area Group 1 Public Comment Document N1	Comment(s)	Response to Comments
<p>time when PCBs were found in many oil products. Since there is no knowledge of the concentrations of those contaminants, the real risk at the site may be much higher than estimated. Thus the RI/FS is inadequate and incomplete. An action determination at this site can not be made until a complete risk profile is obtained through sampling. This Proposed Plan should be withdrawn and resubmitted to public comment when characterization is complete; the potential risk is fully known; and realistic, compliant alternatives identified and evaluated.</p>		<p>N1-36/69 See response to Comment N1-34, above.</p>
<p>4. Repeat Comment. TSF-03 - This site contains lead at depths within the 'future residential, with intrusion' zone of 0-3 m bgs. The lead will not decay in the next 100 years. It will still be available through various exposure pathways, yet the proposed action is to leave it in place. 40 CFR 300.430 is very clear about allowable risk and the NCP is clear that contaminants should be treated or removed rather than left in place. Why will lead be left in place at this site? It seems ludicrous that a small site will be fenced forever in an area that has a real potential for future use by the public. Lead contamination at this site should be removed or treated to reduce future risk.</p>	<p>N1-36/69 (continued)</p>	<p>N1-37/71 See response to Comment N1-35, above.</p>
<p>5. Repeat Comment. TSF -03 - The RI/FS for this site indicates that the possible presence of PCBs, dioxins, and furans was not investigated. This seems a gross oversight since it is known that waste oils were burned during a time when PCBs were found in many oil products. Since there is no knowledge of the concentrations of those contaminants the real risk at the site may be much higher than estimated. The RI/FS is inadequate and incomplete. An action determination at this site can not be made until a complete risk profile is obtained through sampling. This Proposed Plan should be withdrawn and resubmitted to public comment when characterization is complete; the potential risk is fully known; and realistic, compliant alternatives identified and evaluated.</p>	<p>N1-37/71</p>	<p>N1-38/69 See response to Comment N1-34, above.</p>
<p>6. Repeat Comment - Preferred Alternative for WRRTF-01 and TSF-03 - The preferred alternative of Limited Action is unacceptable for two reasons. 1) The risk from the lead will be the same 100 years from now as it is now. Lead will not decay like radionuclides. Fencing this small portion of land in an area which may actually be used by future residents is an attempt to cheaply abrogate your responsibilities, and legal requirements, under CERCLA; 2) This preferred alternative does not address the unknown risk from PCBs, dioxins, and furans.</p>	<p>N1-39/71</p>	<p>N1-40/73 CERCLA guidance documents acknowledge that there are limited situations in which flexibility may be required to ensure implementation of the most appropriate remedy. One such situation is where two different technologies under consideration appear to offer comparable performance on the basis of the five primary balancing criteria, such that both could be argued to provide the "best balance of tradeoffs." Under such circumstances, the proposed plan and ROD may identify one as the selected remedy and specify the criteria whereunder the other remedy would be implemented. The Agencies believe that the selection of Alternative 2 - Containment with Native Soil Cover is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability. The remedial design will require sampling and analysis to design the soil cover to ensure that it will be completely protective of human health and the environment. If it were determined that a fully protective cover could not be cost-effective, then one of the Alternative 3 variations (Excavation and On-Site or Off-Site Disposal) would be selected. This change would be documented in an Explanation of Significant Differences (ESD). The ESD would be placed into the WAG 1 Administrative Record, and the Agencies would provide notice to the public of the change in approach to this site.</p>
<p>7. Page 21 Preferred Alternative. It appears the agencies are proposing a contingent ROD for this site. If so, please state it clearly. Characterization to make this determination should already have been performed as part of the Track 2 or RI/FS. Obviously, it has not been. Suggest this site be retracted from the Plan until proper site characterization has been completed. Site characterization is not to be complete AFTER the ROD.</p>	<p>N1-40/73</p>	

Mercury Spill Area



Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

1. Repeat Comment. TSF-07 - Mercury is found all along the tracks within the TAN area, from the site of the removal action over to TAN 648, yet no mention is made of this in the site description. Was the rest of the track contamination considered during the investigation?

N1-41/75

2. How will the results of phytoremediation be communicated to the public? If additional remediation is required at this site after phytoremediation, how will public comment be sought?

N1-42/78

WRRTF Fuel Leak

1. Repeat Comment. WRRTF-13 - The site description fails to indicate this release resulted in free product on the aquifer which indicates gross contamination is present in the fractured basalt beneath the soil. The RI/FS fails to consider this additional contaminant pathway and is thus incomplete. Risk at this site seems based on TPH when this method has been superseded within the state of Idaho by the RBCA standards. The RBCA standards are published and implemented throughout the state (and is thus a recognized and implemented state standard) and provides chemical-specific cleanup standards for diesel fuel spills which replace generalized TPH standards. The Idaho RBCA standards should be used in the RI/FS rather than TPH standards. If chemical analysis to show compliance with RBCA standards is not available (as I suspect from the lack of data in the RI/FS) then an action determination at this site can not be made until a complete risk profile is obtained through sampling. This Proposed Plan should be withdrawn and resubmitted to public comment when characterization is complete; the potential risk is fully known; and realistic, compliant alternatives identified and evaluated.

N1-43/79

N1-44/25

N1-45/79

2. Repeat Comment. The RAOs do not address protection of the Snake River Plain Aquifer from past releases such as the diesel spill at WRRTF. A significant source term of diesel was left in the soil and fractured basalt; diesel has migrated through fracture basalt of the vadose zone to the aquifer. Remaining diesel contamination could continue to leach to the aquifer.

N1-46/  
31, 82

3. Repeat Comment. Preferred Alternative for WRRTF-13 - The agencies are, again, not being completely honest with the public. Some contamination was removed, but a large amount was left. Limited action is unacceptable due to the large amount of source term left in place with the known contamination extending completely through the vadose zone to the aquifer. This existing source term and pathway to the aquifer is not adequately addressed by the preferred alternative. In addition, the Idaho RBCA cleanup standards should be used rather than the less specific, less restrictive, and general TPH standards.

N1-47/79

N1-48/  
81, 82

N1-49/30

4. Any soil removed must be subject to a full hazardous waste determination prior to landfarming.

N1-50/81

Jim Christopher

N1-41/75

All railroad tracks areas were evaluated for possible mercury contamination. The initial cleanup of mercury was performed at the time of each spill in the 1950s and 1960s. Standard procedure at that time was to clean up the visible mercury. During later cleanup actions, mercury was cleaned up to meet goals that were based on soil ingestion risk-based levels. Later, during the comprehensive RI/FS, the site was reevaluated to compare homegrown produce ingestion risk-based concentrations. These levels are much lower than those for soil ingestion, because mercury can bioaccumulate (build up) in the plants. The remaining contamination exceeded those concentrations.

N1-42/78

The design of the phytoremediation treatability study will include review of all current scientific documentation and ongoing research both in and beyond the DOE complex. Public information and comment opportunities will be carried out as part of the INEEL's public involvement activities. In developing alternatives, CERCLA guidance expresses a preference for the development of innovative treatment technologies if they offer the potential for superior treatment performance or implementability, fewer adverse impacts than other available approaches, or lower costs for similar levels of performance than demonstrated technologies. Phytoremediation is a low-cost remediation option for sites with widely dispersed contamination at low concentrations. Based on the results of the phytoremediation treatability study, a determination will be made as to subsequent action, if required.

N1-43/79

It was previously a common practice at the INEEL to remove as much visible contamination as possible when fixing pipe leaks and carrying out tank removals. During one tank removal at the Fuel Leak site, some soil could not be removed due to the location of a nearby tank. The various sampling events and the associated analytical results can be found in the Track 2 and comprehensive RI/FS documents.

Data analysis and modeling, based on assumptions about the quantities leaked, concluded that the spill would not affect groundwater. No definite evidence of these petroleum products reaching the groundwater has ever been shown. Section 6.3.3.4 and Appendixes B and C of the comprehensive RI/FS provide details of the data analysis and modeling used to assess the potential for groundwater contamination from WAG 1 surface and near surface sources.

N1-44/25

The remedial action objective for the Fuel Leak site (WRRTF-13) was identified in the revised (November 1998) proposed plan as: "Prevent direct exposure to total petroleum hydrocarbon constituents at concentrations over 1,000 mg/kg, in accordance with the State of Idaho Risk-Based Corrective Action guidance." The RAO was changed in this ROD to: "Prevent exposure to petroleum hydrocarbon constituents in accordance with the State of Idaho Risk-Based Corrective Action guidance." The 1,000 mg/kg reference to total petroleum hydrocarbons was removed to conform to the State of Idaho Risk-Based Corrective Action guidance enacted on January 1, 1997. This change is described in Part II, Section 11, of this ROD.

Test Area North, Waste Area Group 1  
Public Comment Document N1

Comment(s)

Response to Comments

N1-44/25 (continued)

Assessments of risks and hazards from chemicals use national uniform standards determined by scientific testing and agreed upon by agencies such as the EPA. Chemicals and compounds for which toxicity values cannot yet be established, such as PCBs and diesel fuel, use hazard quotients or risk-based guidelines, identified through federal and state regulations. Case study analysis and other research constantly continues to refine and revise the guidelines.

N1-45/79

See response to Comment N1-43, above.

N1-46/31, 82

The comprehensive RI/FS determined that contamination at the Fuel Leak site does not threaten the aquifer. The 1995 OU 1-07B ROD for the Technical Support Facility Injection Well determined on the basis of groundwater quality analyses that this well is the source of groundwater contaminants at TAN. The well was last used as a disposal site in 1972. Remediation of the contaminated groundwater plume below TAN is proceeding in accordance with the 1995 ROD. More information on this site is available in the Administrative Record for WAG 1.

N1-47/79

See response to Comment N1-43, above.

N1-48/81, 82

Sampling will be performed before excavation to determine the volume of soil that must be removed. The samples will also be analyzed to characterize the contamination. The sampling and characterization will be performed as specified in the remedial design. The comprehensive RI/FS determined that contamination at the Fuel Leak site does not threaten the aquifer. The previous removal was in response to a spill and took as much soil as was thought to be necessary. The adjacent buildings are currently in use and are not scheduled for D&D within a timeframe such that deferring all remediation of the Fuel Leak site would be prudent management practice. An evaluation will be made in the remedial design to determine the most appropriate time to perform the remediation.

See also response to Comment N1-46, above.

N1-49/30

See response to Comment N1-44, above.

N1-50/81

See response to Comment N1-48, above.

Test Area North, Waste Area Group 1  
Public Comment Document N2

Comment(s)

Response to Comments

**What's Your Opinion?**

The agencies want to hear from you to decide  
what actions to take at Test Area North.\*

Comments:

V-Tanks - Prefer '3b' alternative as just as effective as '4' and more economical.  
PM-2A Tanks - Concur with alternative '5d'.  
S. Turntable - Concur with alternative '3a'.  
Disposal Pond - Prefer '2b' alternative to the 'do nothing' preferred alternative.  
Burn Pits - Prefer '3b' alternative as more effective at this same site.  
Fuel Leak - Concur with alternative '4'.

(Continued on reverse)

If you want a copy of the Record of Decision and Responsiveness Summary, make sure your mailing label is correct.



INEL Environmental Restoration Program  
PO Box 2047  
Idaho Falls, ID 83403-2047

Address Service Requested

FIRST CLASS  
U.S. POSTAGE  
PAID  
IDAHO FALLS,  
PERMIT 77

DEC 14 1998

COMMUNITY RELATIONS  
SUPERVISOR

N2-1/52

A treatability study of planar ISV, a technological improvement over conventional ISV, was carried out in 1998 for the V-Tanks site. The report on this study, *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854), is available in the Administrative Record. The results of the study demonstrated that Alternative 4, involving planar ISV, could be readily implemented and would have high effectiveness on the contamination present in and surrounding the V-Tanks. The study's results fully support the ranking of ISV as shown in the November 1998 revised proposed plan.

N2-2/56

Alternative 3d is preferred for remediation of the PM-2A Tanks site because it would use a proven technology to achieve long-term effectiveness through removal of contaminants. The decontaminated tanks would not need to be removed. The cost-effectiveness is very high relative to other alternatives.

N2-3/60

At the Soil Contamination Area South of the Turntable, Alternative 3a is readily implemented and results in high long-term effectiveness by removing contaminated soil and consolidating it in a managed repository.

N2-4/65

For the Disposal Pond, Alternative 1 - Limited Action will effectively protect human health and the environment from the risk posed by cesium-137 while allowing the active portions within the release site to continue operating. The cesium-137 (half-life of 30 years) will be attenuated through decay to below acceptable levels within the 100-year institutional control period.

N2-5/71

The Agencies believe that the selection of Alternative 2 - Containment with Native Soil Cover for the Burn Pits is supported by the analysis of cost-effectiveness, compliance with threshold criteria, and implementability. The remedial design will require sampling and analysis to design the soil cover to ensure that it will be completely protective of human health and the environment. If it were determined that a fully protective cover could not be cost-effective, then one of the Alternative 3 variations (Excavation and On-Site or Off-Site Disposal) would be selected.

N2-6/80, 81

For the Fuel leak Site, Alternative 4 - Excavation and Land Farming results in high long-term effectiveness through removal and treatment, and has the lowest cost of the four alternatives evaluated because it would not require long-term monitoring.

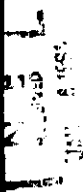
Test Area North, Waste Area Group 1  
Public Comment Document N3

Response to Comments

Comment(s)

## Environmental Defense Institute

P.O. Box 220 Troy, Idaho 83871-0220 Phone: 208-835-6152 / Fax: 208-835-6151



COMMUNITY RELATIONS  
COORDINATOR



Comments

Revised Proposed Plan Test Area North

at the

Idaho National Engineering & Environmental Laboratory

Submitted by  
**Chuck Braccione**  
On behalf of the Environmental Defense Institute  
December 1998

Test Area North, Waste Area Group 1  
Public Comment Document N3

## Comment(s)

## Response to Comments

The Department of Energy's (DOE) Revised Proposed Plan for Waste Area Group 1 - Test Area North (TAN) dated November 1998 contains a few important changes that are a result of the Environmental Defense Institute's review of the February 1998 initial plan that showed significant non-compliance with applicable statutes. The State of Idaho and Environmental Protection Agency regulators must be acknowledged for taking the steps within their regulatory authority to force DOE to revisit the initial TAN plan.

Unfortunately, the TAN plan still fails to provide remedial solutions that meet Applicable or Relevant and Appropriate Requirements (ARAR). The Plan offers no substantive information about the maximum contamination levels related to individual Operational Units (OU). Consequently, the general public is effectively denied essential information upon which to make their own determination of whether the preferred alternatives were appropriate.

The Plan claims to be "the comprehensive" CERCLA investigation into TAN. This is not a "comprehensive" Plan because the ANP Cask Storage Pad, the Area 10 HTRE Reactor Vessel Burial Site, and the TAN Pool have been excluded.

The Heat Transfer Reactor Experiment (HTRE) was part of the 1960's Aircraft Nuclear Propulsion - Initial Engine Test - program. The underground reactor storage unit (near the TAN Turntable) was intended as a shielded temporary storage unit to put reactors and its shield plugs between test runs. The storage unit is a ten foot tank buried vertically with the top end cut out at the ground surface. The reactor vessel and shield plug (10 feet in length) were accidentally dropped into the tank via failed crane rigging and the vessel wedged in the tank making extraction difficult. So the HTRE was simply left in the storage unit and DOE is prepared to leave it there for ever despite the fact that it violates waste disposal regulations. In addition to the highly radioactive reactor vessel (Cs-137, Co-60, Sr-90 contaminants), shield plugs of the HTRE's were filled with mercury which would also violate RCRA hazardous waste disposal regulations. According to the Remedial Investigation/ Feasibility Study (RI/FS) "Soils below and around the reactor vessel storage units have not been sampled making a estimate about the nature and extent of contamination at the site difficult." [DOE/ID-10557@4-59] The HTRE reactor vessel is less than two feet off the surface which creates a long term hazard from exposure and the storage tank is already forty years old making any containment problematic.

The contamination the TAN Plan addresses is mixed hazardous / radioactive low-level waste (MLLW) and is listed in DOE's own Site Treatment Plan (STP) which the Department was required to generate to comply with the Federal Facilities Compliance Act. This MLLW designation is supported by the TAN Remedial Investigation/Feasibility Study (RI/FS) sample data that clearly shows Resource Conservation Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP) extraction analysis results exceeding the regulatory limit in 40 CFR ss 268.48. Therefore RCRA Land Disposal Restrictions (LDR) in 40 Code of Federal Regulations (CFR) Parts 148 and Parts 268 for MLLW and Nuclear Regulatory Commission 10 CFR-Subpart D ss 61.50 must be applied. Unfortunately, the State of Idaho Division of Environmental Quality (DEQ) and the Environmental Protection Agency as regulators refuse to force DOE to comply with the legal requirements of the most basic of environmental laws. The Plan proposes disposal of this MLLW in a manner that would not even comply with municipal garbage landfill requirements let alone the more stringent MLLW regulations. For those TAN hazardous waste release sites, the LDR's in 40 CFR 148 & 268 still apply.

DOE does commit to excavation of two soil contaminated sites. However, DOE's statement of "on-site disposal at an approved repository" offers little assurance that DOE will meet regulatory requirements. At those two Operable Units, the agency is not specifically committing to disposal in a RCRA compliant Subtitle C MLLW dump. Admittedly, DOE is considering constructing a MLLW RCRA compliant dump at the INEEL Idaho Chemical Processing Plant (ICPP) for ICPP waste however, there is no indication that

N3-1/8

N3-2/  
4, 12

N3-3/22

N3-4/22

N3-5/23

N3-6/  
37, 83

N3-1/8

In response to public comment, the Agencies revised the proposed plan and re-released it. During the review of comments on the proposed plan, the Agencies reassessed their initial determination for some WAG 1 sites that the preferred alternative provided the best balance between criteria. The Agencies factored in newly available information and the points of view expressed by the public. A Feasibility Study Supplement was prepared to consider several additional alternatives and reevaluate the alternatives. The proposed plan was revised accordingly.

N3-2/4, 12

The investigation and cleanup process and schedule for TAN have complied with the FFA/CO for the INEEL signed in 1991. Every reasonable effort is made to ensure that TAN remediation activities contribute to the ultimate goal of protecting human health and the environment by use of recognized engineering and institutional responses, that meet standards for protectiveness identified by the Agencies. These standards (ARARs) were identified in the comprehensive RI/FS and this ROD and will be enforced by the Agencies.

The Agencies appreciate all suggestions from the public on types of information that could help a proposed plan better serve its purpose. The proposed plan is an important community relations activity undertaken as part of the CERCLA process. The EPA's CERCLA guidelines (see 40 CFR 300.430 and *Guidance on Preparing Superfund Decision Documents*, OSWER Directive 9355.3-02) define a proposed plan's content and purpose.

The proposed plan, under CERCLA guidelines, supplements and is based on the comprehensive RI/FS "but is not a substitute for that document." The proposed plan provides a "brief summary description" of (1) the remedial alternatives evaluated; (2) the alternative that is preferred; (3) the information that supports the selection of the preferred alternative. Other sections of the proposed plan - history and nature of site contamination, previous actions, and risk assessment - are merely summaries of more detailed investigations, included as background information.

For readers who seek more comprehensive detail on any aspect of the investigation process, the plan provides references to the relevant sections of the comprehensive RI/FS and other documents in the Administrative Record that present in full the information from which the proposed plan is derived. The complete details of operable unit investigations, including sampling data, data sources, and maximum contaminant levels, can be found in the comprehensive RI/FS, Track 1, Track 2, and other WAG 1 documents in the Administrative Record.

N3-3/22

The proposed plan is a summary of those sites at TAN where remedial action is required to protect human health and the environment from risks posed by past releases of contamination. The proposed plan is based on the comprehensive RI/FS for WAG 1, which was the culmination of nearly 50 investigations of potential release sites at TAN. These investigations, which began after the 1991 signing of the FFA/CO for INEEL, determined that 94 potential release sites at TAN required study. A 1995 Record of Decision initiated action at 2 sites and determined that no action or no further action was needed at 30 sites. The comprehen-

Test Area North, Waste Area Group 1  
Public Comment Document N3

Comment(s)

Response to Comments

N3-3/22 (continued)

sive RI/FS evaluated the remaining 62 potential release sites and determined that no action or no further action was needed at 53 sites, and threats to human health required remedial action at 9 sites. One of these 9 sites, the Mercury Spill Area (TSF-08) was selected for a treatability study and will be remediated (if necessary) under WAG 10. Two sites do not pose a threat to human health but do pose a risk to the environment: the LOFT-02 Disposal Pond and the WRRTF-03 Evaporation Pond. These sites also will be addressed under WAG 10. As part of the comprehensive WAG 1 risk assessment, all TAN buildings and structures that are still active or inactive but in standby mode were also evaluated to determine whether future releases from them could occur that would affect the cumulative and comprehensive assessment of risk. As documented in Appendix D of the comprehensive RI/FS, only 4 of the 89 buildings or structures could pose risk in the future. Appendix D also describes the programs in place to prevent risks to human health or the environment. The information and evaluations leading to these decisions is contained in the Administrative Record. The primary decision documents are the OU 1-07 ROD, the comprehensive RI/FS, the Feasibility Study Supplement, and the Track 1 and Track 2 reports. The Agencies believed that the proposed plan issued in February 1998 and the revised proposed plan issued in November 1998 summarized this information adequately. To resolve any confusion or lack of clarity that may have resulted, the following list recaps the disposition of the sites in question.

TSF-43 (RPSSA Buildings TAN-647 and TAN-648 and outside pads). This is part of an active facility and will be further assessed during removal. The contamination that is present under the outside pads is fixed in place with an asphalt cover. The contamination that lies beyond the asphalted area was evaluated as TSF-06, Soil Contamination Area South of the Turntable, and the portion of this site that was determined to require remediation will be cleaned up in accordance with the decisions implemented in this ROD. More information on this site is available in the Administrative Record for WAG 1.

TSF-06, Area 10, Buried Reactor Vessel. The irradiated reactor vessel is contained in a metal storage tank and is believed to be more than 10 feet below ground surface. No pathway to human or ecological receptors exists. More information on this site is available in the Administrative Record for WAG 1.

TAN Pool (part of TAN-607 Hot Shop). The TAN Pool is part of an active facility. Potential threats to human health and the environment from this site will be addressed during its removal from use. More information on this site is available in the Administrative Record for WAG 1. As part of an active facility, the TAN Pool is not being addressed under this CERCLA action.

N3-4/22

See response to Comment N3-3, above.

N3-5/23

Mixed low-level waste (MLLW) contains both hazardous and low-level radioactive components. The contents of the V-Tanks (TSF-09 and TSF-18) and the PM-2A Tanks (TSF-26) are considered mixed low-level waste (MLLW). Regulations applicable to these sites are listed in Part II, Section 7, of this ROD.

Test Area North, Waste Area Group 1  
Public Comment Document N3

the TAN MLLW will be interned there. Questions about the ICPP MLLW dump being in a 100/500 year flood plain have yet to be resolved. The Environmental Defense Institute advocates for the construction of a RCRA Subtitle C dump not in any flood plains and off the Snake River Plain Aquifer. See EDI comments on ICPP Proposed Plan. Dumping radioactive and chemical waste in unlined shallow pits and trenches over top of the regions sole source Snake River Plain Aquifer must end. This misguided dumping practice at the INEEL Radioactive Waste Management Complex Subsurface Disposal Area has resulted in extensive contamination of the aquifer. Absent a definitive commitment to do otherwise, the proposed TAN Plan intends to repeat this dumping practice despite undeniable examples of failure of this approach. DOE has already gotten away with this illegal dumping in the Test Reactor Area Warm Waste Pond Environmental Restoration project completed in 1997. The Department proposes to repeat this type of dumping at the Naval Reactor Facility, Argonne-West and again at Test Area North.

DOE new plan for the TAN PM-2A waste tanks is "removal and treatment of the tank contents" which is an improvement to their earlier plan. The problem is that the "treatment" and disposal of the "treated" waste is not specified. In previous plans this treatment meant mixing the waste with cement (grout) and dumping it back in shallow pits at the INEEL. This is another lesson NOT learned at INEEL as the public and regulators rejection of grouting of MLLW and shallow land burial at Hanford. EDI proposes that the Hanford model be used and the waste vitrified and stored on site until a permanent geologic repository is developed.

Below Table A lists the Operable Units (contaminate release sites) and the proposed decisions remedial actions or no actions. Table B lists the Operable Units and selected sampling data and the source of the data. This information is the result of months of review of the voluminous Administrative Record. The Environmental Defense Institute believes that this information is essential to making an informed decision as to whether DOE's preferred alternative is appropriate. Regulators should have insisted that this information be included in the Plan that was mailed out to the general public.

DOE has never in any of its INEEL Environmental Restoration Record of Decisions (ROD) been forced by the regulators to specify what institutional control constitutes. Only through that legally binding ROD document can DOE be held liable for specific actions. For instance, 100 years of institutional control (the amount DOE has committed to) could be interpreted as retaining ownership and annual flybys to monitor the site. In view of the toxicity of the waste being hazardous for hundreds of thousands of years, this is a crucial issue. The length of time the waste will pose a risk to any intruder must determine the duration of institutional control and barriers adequate to keep intruders out must be maintained for the duration. Monitoring must include soil and ground water sampling to ensure the waste is not migrating. A trust fund must also be established so that if the federal government again decides to ignore the law, that state or local government will have the resources to do the job.

The preferred alternative for the V Tanks (TAN-09) is in situ vitrification (ISV). EDI believes that the National Environmental Policy Act applies because it is a major federal action with potential for significantly affecting the quality of the human environment. \$10,471,864 = major action. The potential for releases that could affect the environment have plagued this technology as seen with explosions at DOE's Oak Ridge National Laboratory, Hanford, and INEEL. With fissile material the issue of criticality potential must also be addressed. DOE offers no disclosure of emission control systems (gas and particulate) or the required hazard category, two or greater that requires double containment and impact capability currently not included in the ISV plan. DOE has not identified the acceptable risk range for short-term risk to workers and public currently not included in the ISV plan. The old adage that "the devil is in the details" applies here. DOE has no public credibility to develop the "details" behind closed doors because that process lead to the massive INEEL contamination and a \$19.29 billion superfund cleanup legacy.

## Comment(s)

## Response to Comments

N3-6/37, 83

N3-6/  
37, 83  
(continued)

The actual on-site disposal location for TAN materials, which could be the Radioactive Waste Management Complex (RWMC), the proposed ICDF, or another facility, will be determined during remedial design following implementation of this ROD. The proposed ICDF would be a landfill for low level radionuclide-contaminated soil and debris. Selection of the ICDF for disposal of TAN materials depends at least in part on the timeframe associated with construction of the facility and its waste acceptance criteria. Costs for this facility, however, would likely be much lower than current RWMC disposal fees.

The ICDF is being planned under Waste Area Group 3 at the Idaho Nuclear Technology and Engineering Center (INTEC; formerly the Idaho Chemical Processing Plant). A description of the proposed ICDF, including its siting, design, capacity, lifespan, and waste acceptance criteria, was presented in October 1998, in the *Proposed Plan for Waste Area Group 3 at the Idaho Chemical Processing Plant*. The Record of Decision for Waste Area Group 3 is expected to be finalized in September 1999.

N3-7/4

N3-9/12

The investigation and cleanup process and schedule for TAN have complied with the FFA/CO for the INEEL signed in 1991. Every reasonable effort is made to ensure that TAN remediation activities contribute to the ultimate goal of protecting human health and the environment by use of recognized engineering and institutional responses, that meet standards for protectiveness identified by the Agencies (DOE, EPA, and State of Idaho). These standards (ARARs) were identified in the comprehensive RI/FS and this ROD and will be enforced by the Agencies. The remedies proposed for WAG 1 sites are in no way illegal.

N3-10/  
41, 40, 14

The CERCLA process carried out for TAN includes all required community relations activities, to ensure the public appropriate opportunities for involvement in a wide variety of site-related decisions, including site analysis and characterization, alternatives analysis, and selection of remedy. The public meetings, the proposed plans and associated comment periods, and the Administrative Record all provided opportunities for the community to learn about the WAG 1 remediation and inform the Agencies about their concerns. The Agencies hope that the WAG 1 CERCLA process with its public comment opportunities, and other regulatory hearing processes required by RCRA, will help build trust in the INEEL's path forward.

N3-11/54

N3-8/58

N3-12/53

Treatment is any component of an alternative that reduces the toxicity, mobility, or volume of the hazardous substances, pollutants, or contaminants through destruction or alteration. Stabilization, by decreasing the mobility of hazardous substances, is a form of treatment. Proposed plan wording may have incorrectly implied that stabilization is not a form of treatment.

Decontamination and other treatment as required to meet ARARs will be developed during the remedial design. Grouting, as a method of treatment or stabilization, will not be a part of the selected remedy.

Given the uncertain schedule for opening of a permanent geologic repository and the difficulty in estimating storage and disposal costs, vitrification and temporary

Test Area North, Waste Area Group 1 Public Comment Document N3	Comment(s)	Response to Comments
<p>DOE Guidelines to NEPA compliance (10 CFR 1021 Appendix B Subpart D) and the Categorical Exclusions (CE) (B(2) &amp; B(3)) prohibit use of CE's for waste treatment facilities. Categorical Exclusions can not be used when the project "requires siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators and facilities for treating wastewater, surface water and groundwater water or disturb hazardous substances, pollutants, contaminants." Therefore, if DOE proceeds with the ISV, it must meet NEPA requirements.</p>	N3-13/54	<p>N3-8/58 (continued)</p> <p>storage of the waste would have very low cost-effectiveness. Moreover, it would likely not be able to be implemented within a reasonable time.</p> <p>All applicable ARARs, as identified in Part II of this ROD, will be enforced by the Agencies. Verification techniques will be described in the remedial design. Satisfaction of LDRs, as required, will be enforced by the Agencies.</p>
<p>DOE must meet RCRA Land Disposal Restriction (LDR) Universal Treatment Requirements or dispose of waste in RCRA compliant Subtitle C 42 USC 6924 (B) (1)(A)(i) construction requirements. Idaho Hazardous Waste Management Act also applies to closure of RCRA storage units. The V tanks and the PM tanks fit in this storage class. IDAPA 16.01.05 and they are also listed in the INEEL Site Treatment Plan as MLLW.</p>	N3-14/ 54, 58	<p>N3-9/12</p> <p>See response to Comment N3-2, above.</p> <p>N3-10/41, 40, 14</p>
<p>ISV is not an approved treatment in RCRA Land Disposal Restrictions (40 CFR 268.40) Treatment Standards for Hazardous Wastes. V-1, 2, &amp; 3 tanks have 22 RCRA listed wastes in excess of the Universal Treatment Standards (268.48). V-9 tank has 26 RCRA listed wastes in excess of the Universal Treatment Standards (UTS). DOE is obliged to show how ISV will meet the treatment standards for each and everyone of the contaminants exceeding the UTS. For example: Mercury, and Aroclor (a PCB) require incineration or retort. DOE must show how ISV meets treatment requirement for exemption from RCRA Subtitle C MLLW disposal. DOE must test in-situ post melt and have a contingency plan if the insitu vitrification does not meet RCRA Universal Treatment Standards.</p>	N3-15/54	<p>Institutional controls are ongoing actions to minimize potential threats to human health and the environment. Institutional controls include legal access restrictions, such as deed restrictions, and physical access restrictions, such as fencing, signs, physical structures such as embankments, and security measures. Deed restrictions, which limit the available use of and activities that can be performed at a given site, prevent the completion of exposure pathways that would result in an unacceptable risk to human health. Physical access restrictions limit exposure to contaminants in soil and are effective for contamination that is not likely to become airborne.</p>
<p>How is DOE meeting NRC licence requirements for permanent disposal site under 10 CFR 61.50 Subpart D Technical Requirements for Land Disposal Facilities and 10CFR 61.52 Class C I.L.W which requires 5 meter (~16.4 ft) cover or 500 year barrier and buffer zone. 10 CFR 61.59 Institutional controls can not be relied upon for more than 100 years.</p>	N3-16/4	<p>Institutional controls have relatively low annual costs and can be an effective component of a CERCLA response, especially as a supplement to engineering controls. Institutional controls are not substituted for active response measures (i.e., treatment or removal) as the sole remedy unless such active measures are determined not to be practicable during the evaluation of alternatives. At any site where the remedial measure leaves contamination in place at levels that could potentially pose a risk to human health, institutional controls would be implemented to maintain protectiveness. Site reviews every 5 years would evaluate the effectiveness of the institutional controls. Permanent markers will be installed at any site at which radioactive contamination is left in place.</p> <p>Institutional controls would be maintained while the responsible authority is in control of the site, which at INEEL will be a minimum of 100 years following site closure. The institutional control period is the term referring to this duration of site responsibility. At TAN, the 100-year institutional control period is assumed to begin in 1999 and end in 2099. Part II, Section 12, of this ROD provides more details on institutional controls for WAG 1 sites.</p> <p>Environmental monitoring is the sampling of soil, air, water, plants, or animals to detect changing conditions at a site that may require further evaluation. Environmental monitoring would continue for a least 100 years after the site is remediated if contamination remains at the site. For the seven sites to be remediated under this ROD, environmental monitoring would only be required at the PM-2A Tanks (TSF-26), the Disposal Pond (TSF-07), and the Burn Pits (TSF-03 and WRRTF-01).</p>
		<p>Environmental monitoring under the CERCLA process may consist of the collection and analysis of air, soil, plants, and other media from a site. Air monitoring may include the use of high- and low-volume air samplers to determine whether</p>



**Test Area North, Waste Area Group 1  
Public Comment Document N3**

**Comment(s)**

**Response to Comments**

**Table A**

Site	Alternative #	Comments
<b>Low-level Rad Contaminated Soils</b>		
TAN Injection Well TSF-05		Pump and treat implemented STP says liquid/sludge is MLLW
Turntable TSF-06 Area B	3a	DOE proposes Excavate soil and onsite disposal Waste Qualifies as MLLW
TSF-06 Contaminated Soil	1	DOE proposes removal action (institutional control) Waste qualifies as MLLW
Tan Disposal Pond (TSF-07)	1	DOE proposes no removal action STP says contaminated soil is MLLW
WRRTF Burn Pits WRRTF-01	1	DOE proposes no removal action and soil cover qualifies as hazardous waste
Mercury Spill Area TSF-08	3	DOE proposes excavation soil and off site disposal Qualifies as hazardous waste
Diesel Fuel Leak WRRTF-13	1	DOE proposes removal action and soil cover Qualifies as hazardous waste
Disposal Pond Loft-02	0	DOE proposes no action Waste qualifies as MLLW
Drainage Pool TSF-10	0	DOE proposes no action Waste qualifies as MLLW
<b>Tanks</b>		
V-Tanks TSF-09/18 V-1, 2, and 3 are 10,000 gallon tanks. V-9 (TSF-18) is a 400 gallon tank Tanks are ~ 10 deep	4	DOE proposes in-situ vitrification (alternative 4) if fails (high VOC likely explode) STP says liquid/sludge MLLW Contents and soils of V tanks qualify as MLLW V-2 tank liquid spill (1,700 gal)
BIT Valve Pit TSF-21	0	DOE proposes No action STP says contaminated soil is MLLW page 6-3
PM-2A Tanks TSF-26 V-13 and V-14	4a	DOE proposes soil excavation on-site disposal and in-situ grouting of tank contents STP says debris/sludge is MLLW

STP = INEEL Site Treatment Plan a compliance document for Federal Facility Compliance Act

Ignored sites: ANP Cask Storage Pad, Area 10 Reactor Vessel Burial Site  
TAN Pool contaminated soil, TAN 616

N3-10/41, 40, 14 (continued)

fugitive radionuclides escape sites where contaminated surface soils exist. Soil monitoring may include radiation surveys over and around sites where contaminated soil and debris are left in place to evaluate whether radionuclides are mobilized to the surface.

The specific types of environmental monitoring conducted at TAN sites where contamination remains in place or residual contamination may remain after treatment or removal actions will be determined during the remedial design phase.

The federal government has an obligation to provide adequate institutional controls (i.e., limit access) to areas that pose a significant health and/or safety risk to the public and workers until that risk diminishes to an acceptable level for the intended purpose. Achievement of this obligation hinges on continued Congressional appropriation of sufficient funds to the responsible government entity charged to maintain the institutional controls for as long as necessary and as long as the federal government of the United States remains viable.

N3-11/54

The Agencies would enforce all applicable ARARs, including LDRs, as identified in Part II of this ROD. Verification techniques would be described in the remedial design. The selected remedy for the V-Tanks was changed to Alternative 2 – Soil and Tank Removal, Ex Situ Treatment of Tank Contents, and Disposal during a reevaluation of alternatives for this site, triggered by an increase in the estimated cost for the ISV alternative, and the new availability of off-site commercial treatment facilities permitted to handle mixed wastes similar to those in the V-Tanks.

N3-12/53

The ISV technology that was tested is a modification called planar ISV. It is described in the *Treatability Study for Planar In Situ Vitrification of INEEL Test Area North V-Tanks*, October 1998 (INEEL/EXT-98-00854). Planar ISV is an enhancement of conventional ISV technology that resolves problems that have occurred using conventional ISV. By treating the contamination matrix from the ground surface down, conventional ISV can trap volatile materials below the melt resulting in pressure buildup that can cause displacement of material from the melt pool, overheating of the off-gas treatment system, and process upsets. Planar ISV resolves these issues by positioning the melt planes to the sides of the contamination area, allowing the melt to proceed from the sides inward toward the center so the vapors can vent upward and be effectively and safely removed. Reliability problems and process upsets are not anticipated for planar ISV.

Planar ISV could simultaneously treat, in situ, the radioactive and chemically hazardous materials in the V-Tanks (including the PCBs) and the contaminated soil surrounding the tanks. A full-scale demonstration to meet Toxic Substances Control Act (TSCA) requirements was performed at the Apparatus Service Center Superfund Site in Spokane, Washington, to treat PCBs. All objectives were met and an EPA TSCA permit was issued in October 1995. A large-scale remediation was successfully performed on dioxin and other organic wastes from the Wasatch Chemical Superfund Site in Salt Lake City, Utah. At both sites, treatment efficiency of over 99.99% was demonstrated. The planar ISV system has been accepted for use on